Remarks

The Present Invention and the Pending Claims

The present invention relates to distributed computing.

Claims 1- 48 are pending and stand rejected.

The following pending claims have been cancelled: 2- 5, 7, 8, 10-25, 27, 30, 35-37, 39- 48.

The following claims are pending: 1, 6, 9, 26, 28, 29, 31- 34, 38.

Reconsideration and allowance of the pending claims is respectfully requested.

Summary of the Office Action

Claims 1- 48 are rejected.

Claim 1 is rejected under 35 U.S.C. 102 (b) and 35 U.S.C. 103 (a).

Claim 6 is rejected under 35 U.S.C. 112, first paragraph as failing to comply with the enablement requirement and also under 35 U.S.C. 102 (b).

Claim 9 is rejected under 35 U.S.C. 102 (b).

Claim 26 is rejected under 35 U.S.C. 102 (b) and 35 U.S.C. 103 (a).

Claim 27-38 include limitations that are substantially similar to those of claims 1-25 and are rejected under the same prior art cited for the rejections of claims 1-25.

Amendment To The Claims

Claims 1, 26, 28, 29, 32 and 34 have been amended. No new matter has been added by way of these amendments. Claims 6, 9, 31, 33 and 38 have been retained as originally filed.

Claim 1 is rejected under 35 U.S.C. 102(b)as being anticipated by Ciscon et al. which disclose a system for developing distributed applications over a network of computing units, the system comprising:

    a. a plurality of component programs installed over the network of computing units to create the distributed application (Ciscon, col. 2, lines 31-35);

    b. a plurality of data stores on one or more of the computing units comprising a plurality of routes for data transfer between the component program and a plurality of parameters for configuring the component programs (Ciscon, col. 2, lines 45-65, col.11, lines 5-25); and

    c. a plurality of controller programs running on one or more of the computing units in the network for interfacing with the component programs and for interacting with other controller programs to send and receive data by referring to routing information from the data store (Ciscon, col. 2, lines 45-60);

Claim 1a has been amended to include the definition of the component program. This definition of the component program clearly distinguishes the component program of the applicant's invention over the "application process" of Ciscon et al. The component program of the applicant's invention only receives, processes and transmits data; it is not burdened with routing intelligence, a significant method step difference over Ciscon. In contrast, the "application process" of Ciscon et al. contains routing or addressing information. The disadvantage of such an application of prior art is recited on page 2, line 14 of the background section of the applicant's patent application: "This results in an inflexible integrated application where any modification in the workflow or data routes entails changing the application code itself. Indeed, this is a very tedious process. Further, since data routing is embedded within the application code, any network failure may result in the halting of the integrated application, which in turn, may require re-routing the data as well as recompilation and re-launching of the integrated application. Therefore, EAI and B2B platforms provided by such companies tend to be very rigid and involve a lot of custom programming."

Refer to page 15, lines 22, 23, 24, 34 and page 16, lines 1 to 4 of the applicant's patent application that recite the structure and functionality of the component program. Page 15, lines 22 to 24 of applicant's patent recites: "The component programs present on each node are only concerned with taking the data presented by the controller programs on their input ports, processing the data and writing the results to their output ports. The controller programs simply provide an infrastructure for the component programs to interact with each other." Page 16, lines 1 to 4 of the applicant's patent recites: "This enables decoupling of the computation by the component programs from the communication between them. The component programs merely perform the computational logic and are completely oblivious to their participation in the distributed application."

In contrast, refer to column 8, line 20 to 24 of Ciscon et al. that recites the application process contains addressing and routing information: "Addressing information can be specified both when an object is distributed and when a process registers interest in an object. A destination address of an object is the address of the process that should receive it."

Claim 1b has been amended to recite the external creation of a data store. In applicant's invention, the data store is first created externally and the distributed application is later composed using the predetermined information in the data store. Refer to the applicant's specification, page 14, line 20 to 24 that reads: "To compose a distributed application, the developer has to specify in a data store, the component programs that make up the application, the communication routes between these component programs, and the computing nodes on which the component programs would be run. This data store, would then, essentially represent the distributed application." Ciscon et al. does not disclose the creation of such a data store and its subsequent use to generate the distributed application.

Claim 1c has been amended to recite that a plurality of controller programs and component programs receive information from a controller program on the routing of

data between component programs, locations of other component programs and inter-relationship and organization of other component programs in a distributed application. Ciscon et al. does not disclose an element of similar structure or functionality in its system.

USPTO's Manual Of Patent Examining Procedure, section 2131 provides: "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ...claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)." Claim 1 has been amended at 1a, 1b and 1c to recite elements that are not expressly or inherently described by Ciscon et al, or identically shown in as complete detail in the system of Ciscon et al. For the reason stated above, applicant respectfully submits that under MPEP section 2131, claim 1 is not anticipated by Ciscon et al., and applicant solicits reconsideration of the rejection and allowance of claim 1.

Claim 1 is also rejected under 35 U.S.C. 103 (a) as being unpatentable over Applicant's Admitted Prior Art in the Background section of applicant's specification, herein referred to as APA. The office action further states that regarding claim 1, APA disclosed a system for developing distributed applications over a network of computing units, the system comprising:

    a. a plurality of component programs installed over the network of computing units to create the distributed application (APA, page 1, lines 18-25);

    b. a plurality of data stores on one or more of the computing units comprising a plurality of routes for data transfer between the component program and a plurality of parameters for configuring the component programs (APA, page 2, lines 18-35, page 3 , lines 10-14, 20-25; APA also states that routes and work flow are stored within the memory of the system); and

c. a plurality of controller programs running on one or more of the computing units in the network for interfacing with the component programs and for interacting with other controller programs to send and receive data by referring to routing information from the data store (APA, page 3, lines 20-33, The central server is a computing unit within the network);"

In response to the examiners rejection of claim element 1a over APA, recited on page 1, lines 18-25 of the applicant's patent application, applicant respectfully points out that the component program of the applicant is not equivalent to the "applications" recited in page 1, lines 18-25 of the application. The component program does not have the intelligence to specify the data routes and workflow. The "applications" disclosed on page 1, line 18-25 of the applicant's Background section of the patent application specify the data routes and workflow within the application code, is further described on page 2, line 18-35 in the Background section of the applicant's patent application.

In response to the examiners rejection of claim element 1b over APA, recited on page 2, lines 18-35, and page 3 line 10-14, 20-25, applicant respectfully points out that the component program of the applicant is not equivalent to the "applications" discussed in page 3 line 10-14 of the applicants patent. The component program does not have the intelligence to specify the data routes and workflow. The "applications" discussed on page 3, line 10-14 of the applicant's Background section of the patent application specify the data routes and workflow within the application code. Also, the "controller programs" of the applicant's invention is not equivalent to the central server discussed in the background section of the applicant's patent application on page 3, line 20-25. The controller programs interact with one another and a plurality of controller programs control work flow and the routing tables, in contrast to a single central server that accomplishes this function as described in the Background section of the applicant's patent application on page 3, line 20-25.

In response to the examiners rejection of claim element 1c over APA, recited on page 3, lines 20-33, applicant respectfully points out that the "controller programs" of the

applicant's invention is not equivalent to the central server discussed in the Background section of the applicant's patent application on page 3, line 20-33. The controller programs interact with one another and a plurality of controller programs control work flow and the routing tables, in contrast to a single central server that accomplishes this function as described in the Background section of the applicant's patent application on page 3, line 20-33.

Claim 6 is rejected under 35 U.S.C. 102 (b) as being anticipated by Ciscon et al. The office action, at item 21 states: "Regarding Claim 6, Ciscon disclosed the limitation, substantially as claimed, as described in claim 1, including wherein the component programs are adapters for communicating with external applications that are not installed within the system. (Ciscon, col. 3, lines 5-10)". In response, applicant respectfully points out that the "external program" is the component program. However, the applicant's invention discloses the component program and the external program as separate entities, as inferred from the applicant's disclosure on page 14, line 24 to 29 that recites: "The developer can also integrate external applications like web servers, web services, external enterprise applications, and external databases with the component programs running on the platform, by specifying communication routes between the external application and such component programs."

The office action, at item 21, states: "Ciscon disclosed the limitations, substantially as claimed, as described in claim 1, including wherein the component program are adaptors for communicating with external applications that are not installed within the system (Ciscon, col. 3, line 5 to 10)". In response, applicant points out that Ciscon at column 3, line 5 to 10, col. 3 recites: "By placing the burden of managing the network communications on the local routers, the complexity of the application code is reduced since it has only a single connection to its router. Such details as the operating system type and the network protocol are handled by the routers". However, in contrast to the applicant's invention, this recitation of Ciscon does not disclose direct communication between the component programs and the external applications.

Claim 9 is rejected under 35 U.S.C. 102 (b) as being anticipated by Ciscon et al. The office action, at item 23 states: "Regarding Claim 9, Ciscon disclosed the limitations, substantially as claimed, as described in claim 1, including wherein the data store can be replicated for high availability on a multiplicity of computing units (Ciscon, col. 2, lines 57-62)". In response, applicant respectfully points out that Ciscon, col. 2, line 57-62 recites: "Each local router has a connection table for keeping track of the routers that the local router is connected to. The connection table also maintains a list of the child processes connected to the local router". The above recitation of Ciscon does not disclose the replicability of the data store on a multiplicity of computing units.

The office action, at item 38, rejected claims 26 and 39 under the same prior art used in the rejections of claims 1-25 as the limitations in claims 26 and 29 are substantially similar to those of claims 1-25. In response, claim 26 has been amended with limitations that are substantially similar to the amendments made in claim 1.

The office action, at item 6, states: "Claim 26 recites the limitation "the distributed application" in lines 21 and 23. There is insufficient antecedent basis for this limitation in the claim". In response, claim 26 has been amended to recite the above antecedent basis.

The office action, at item 7 states that there is insufficient antecedent basis in claim 28 for the limitation of "the participating computing units". In response, applicant has deleted this limitation from claim 28.

The office action, at item 3, states: "Claim 29 includes the following typo: "choosing the component programs from set of available component programs...". In response, the typo has been corrected to recite: "choosing a subset of component programs from a set of component programs"

The office action, at item 38, rejected claims 33, 34, 38 under the same prior art used in the rejections of claims 1-25 as the limitations in claims 33, 34, 38 are substantially similar to those of claims 1-25. In response, independent claim 1 has been

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appropriately amended; therefore, claims 33, 34 and 38, dependent on claim 1, now do not include the limitations.

Conclusion

Applicant respectfully requests that a timely Notice of Allowance be issued in this case. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of this application, the Examiner is requested to call the undersigned.

Respectfully submitted,

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Date

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